



# NATIONAL WEATHER ASSOCIATION

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June 28, 2010

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Marlene H. Dortch, FCC Secretary  
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Federal Communications Commission  
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## National Weather Association Position Statement and Response to FCC ET Docket No. 10-123: Use of 1675 – 1710 MHz Band

On behalf of the nearly 3,000 National Weather Association (NWA) members, the NWA President with the consent of the NWA Council opposes the proposed reallocation of the 1675-1710 MHz band because it will have a major negative impact on those who receive direct broadcasts from the constellation of operational weather satellites. The NWA respectfully requests the Federal Communications Commission (FCC) abandon its plans to make this band available for broadband use. Dual use of this band will negatively impact weather warnings and forecasts and compromise public safety.

The NWA is a member-led, non-profit, professional organization promoting excellence in operational meteorology. The NWA membership, which is comprised of the government, private, and academic meteorological communities rely on the satellite observations, especially those that are communicated in real-time via the 1675 – 1710 MHz band, to ensure the safety and well-being of the general public. NWA members utilize these satellite data on a daily basis to perform their basic jobs – operational forecasting, provision and communication of hazardous weather information to emergency service decision makers, transportation and commerce interests, and the public at large, supporting domestic military operations, and research and development.

Specifically, the NWA membership relies on real-time satellite data distributed via the 1675 – 1710 MHz band to:

- Perform short range forecasts and early warning of severe weather events such as thunderstorms, tornadoes, hurricanes, and flash flooding.
- Monitor active wild fires and provide crucial decision- making information on their location, size and intensity to save lives and property.

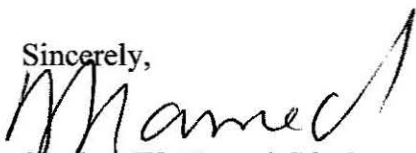
- Provide the primary source of information for volcanic ash monitoring to avoid catastrophic mid-air accidents and for the generation of turbulence and in-flight icing products, all vital to air travel safety.
- Track and monitor hurricanes, tropical storms, tsunamis, ocean currents, wave heights, and sea surface temperatures to save countless lives and substantially reduce coastal property damage.
- Receive and disseminate timely images and text messages to emergency managers at low cost. Included in this data stream are weather observations, forecasts, severe weather warnings and watches, climate information, hydrologic (stream data), and seismic data on earthquakes.
- Provide value-added satellite derived products to the media and the general public.
- Provide real-time monitoring and forecasting of solar and geophysical events which impact satellites, power grids, communications, navigation, and many other technological systems and create a radiation hazard for astronauts.

Any disruption to the current ability to receive satellite data via real-time direct broadcast will severely jeopardize the safety of the public, and adversely impact national commerce and transportation. Furthermore, sole reliance on satellite data distribution and receipt in delayed mode via the Internet is not an acceptable alternative, as that capability will not be reliable in many critical weather situations as described above.

In summary, the NWA strongly disapproves of the FCC's proposed plan to use the 1675-1710 MHz for broadband applications, placing such usage in direct competition with its current use for real-time direct broadcast of data from operational meteorological and environmental satellites and radiosondes. As Hurricane Katrina showed; internet service and other forms of terrestrial communication services (e.g., cell phone towers) cannot be relied upon during and after critical significant weather events. With increasing higher data rates expected from the new generation of weather satellites and sensors that will be launched over the next decade (2010-2020), the NWA strongly recommends the 1675 – 1710 MHz band be reserved *exclusively* for real-time direct broadcast from operational meteorological and environmental satellites, along with telemetry receipt from radiosondes.

On the following pages are addressed the specific items requested for comment in ET Docket 10-123.

Sincerely,



Stephen W. Harned CCM  
Executive Director

The following specifically address the numbered items in Docket 10-123 affecting the NWA:

**1. A description of the utility of the 1675-1710 MHz band for wireless broadband services, including any pairing, band plan, or other licensing approaches that would maximize this utility;**

NWA is not concerned by this description.

**2. Identity of the non-federal entities accessing the services operating in the 1675-1710 MHz band;**

Domestic meteorological satellite operators and data users that support private, federal and academic entities. These include private providers of weather and climate information, whose clients include various commercial and transportation interests, the broadcast media, emergency services and decision makers, and numerous research laboratories.

**3. A description of the purpose of such use (*i.e.*, the equipment is used to support TV weather forecasting or for conducting university research);**

Meteorological satellites and related meteorological satellite Earth stations in support to operational meteorological activities. These functions directly support a number of downstream applications including, e.g. civil protection, flood warning, aviation, marine, road transportation, energy, nuclear emergency, media reports, advice to the public.

**4. Which portions of the 1675-1710 MHz band are used;**

Domestic operational satellites in geostationary orbit rely on 1685.7, 1690.725, 1691, 1692.7 MHz while future satellites will be using 1685.0, 1690.2, and 1697.4 MHz. These satellites are also using 1694.5, 1676, 1677, 1686 and 1681 MHz for retransmission to primary ground stations. Polar-orbiting operational satellites in sun-synchronous, low-Earth orbit rely on 1698, 1701.3, 1702.5, and 1707 MHz and future polar-orbiting operational satellites will use 1707 MHz for real-time direct broadcast. In addition, the National Weather Service (NWS) has just implemented a nationwide network of telemetry-receiving systems to retrieve critical weather information (*i.e.*, vertical profiles of temperature, moisture, wind) from scheduled twice-daily releases of balloon-borne radiosondes that transmit data at 1680 MHz.

**5. How often the service is used (e.g., every day, scheduled times of day, duration, etc.);**

The service is used on a 24 hour a day, 7 day a week, 365 days per year basis. Direct Broadcast services from meteorological satellites are permanent data streams. Additionally, during specific weather events, enhanced data transmissions occur (i.e., more frequent and more voluminous satellite measurements).

**6. An estimate of the current investment in wireless equipment, including when it was obtained and put into use;**

It is estimated that the investment in current and future satellites and equipment exceeds \$1 Billion.

**7. A description of whether and how the information and services currently accessed can be obtained from other means; and if so, the anticipated costs and timeframes for implementing any alternatives;**

There is no alternative to the current spectrum being used by meteorological satellites that can provide similar reliability.

**8. Confirmation that, if the information currently available from the meteorological satellite service were received at only a few receive sites and distributed via terrestrial services, this would be a functionally equivalent substitute for the direct reception of the satellite and radiosonde services;**

The NWA strongly disagrees with the above statement. Reliance on such a proposed alternative severely jeopardizes the use of meteorological satellite data in life-threatening situations. A recent example was with Hurricane Katrina; internet service as well as other forms of terrestrial communication services (e.g., cell phone towers) were lost over a large portion of the Gulf Coast states coinciding with a period when emergency managers and weather forecasters relied heavily on satellite data.

**9. Any other information interested parties would like to identify regarding use of the meteorological satellite and radiosonde services.**

These are described in the cover letter.

**References**

“FCC Public Notice DA-10-1035: Office of Engineering and Technology Requests Information on use of 1675 – 1710 MHz Band, ET Docket No. 10-123, June 4, 2010.